TECHNICAL REVIEW DOCUMENT
For
RENEWAL TO OPERATING PERMIT 96OPDE134

Public Service Company – Zuni Station
Denver County
Source ID 0310007

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Revised April 2009

I. Purpose:

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewed operating permit proposed for this site. The current Operating Permit was issued April 1, 2004. The expiration date for the permit was April 1, 2009. However, since a timely and complete renewal application was submitted, under Colorado Regulation No. 3, Part C, Section IV.C all of the terms and conditions of the existing permit shall not expire until the renewal Operating Permit is issued and any previously extended permit shield continues in full force and operation. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted February 19, 2008, comments on the draft permit and technical review document received April 22, 2009, previous inspection reports and various e-mail correspondence, as well as telephone conversations with the applicant. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at http://www.cdphe.state.co.us/ap/Titlev.html. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Source

This facility is classified as an electric services facility under the Standard Industrial Classification 4911. This facility consists of three steam boilers (Units 1A, 1B and 2)

that are fueled primarily with natural gas, although No. 6 fuel oil is used as a back-up fuel. Typically these boilers provide steam to the downtown Denver area; however, during peak operating periods the turbines are brought online. Boilers 1A and 1B serve a common turbine rate at 45 gross MW (GMW) and boiler 2 supports a turbine rated at 76 GMW. In addition, there are cold cleaner solvent vats at this facility that are subject to requirements in Colorado Regulation No. 7 and are therefore included in Section II of the permit.

Based on the information available to the Division and provided by the applicant, it appears that no modifications to these significant emission units has occurred since the original issuance of the operating permit.

Note that none of the boilers are equipped with a control device and therefore the Compliance Assurance Monitoring (CAM) requirements do not apply to these units.

The facility is located in central Denver at 1335 Zuni Street in Denver county, within the Denver metro area. The Denver metro area is classified as attainment/maintenance for particulate matter less than 10 microns (PM_{10}) and carbon monoxide. Under that classification, all SIP-approved requirements for PM_{10} and CO will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. The Denver Metro Area is classified as nonattainment for ozone and is part of the 8-hr Ozone Control Area as defined in Colorado Regulation No. 7, Section II.A.1.

There are no affected states within 50 miles of the plant. Rocky Mountain National Park and Eagles Nest National Wilderness Area, both Federal Class I designated areas are within 100 km of this facility.

The summary of emissions that was presented in the Technical Review Document (TRD) for the original permit issuance has been modified to update actual emissions and to better reflect the potential to emit. Emissions from the facility are shown in the table below:

Pollutant	Potential to Emit (PTE)		Actual Emissions – Combination
	100% Natural Gas	100% No. 2 Fuel Oil	
PM[1]	782.3	782.3	0.8
PM_{10}	782.3	782.3	0.8
SO_2[2]	4.4	6,657.6	1.6
NO_X	2,074.1	2,536.5	78.4
CO	622.2	269.8	30.8
VOC	40.7	41	2
Lead (Pb)[3]	N/A	0.076	N/A
Total HAPS	0.64	6.39	N/A
Highest Single HAP[4]	0.56	4.26	N/A

[1]PTE, when burning any fuel, is based on the Reg 1 PM limit (0.102 lbs/mmBtu – boiler 1A, 0.126 lb/mmBtu – boiler 1B and 0.1 lb/mmBtu - boiler 2) x design heat rate x 8760 hrs/yr. PM_{10} is assumed to be 100% of PM, when burning natural gas and 71% of PM, when burning No. 6 fuel oil (per AP-42, Section 1.3 (dated 9/98), Table 1.3-4).
[2]PTE, when burning No. 6 fuel oil, is based on the Reg 1 SO_2 limit (0.8 lbs/mmBtu for boilers 1A and 2 and 1.5 lbs/mmBtu for boiler 1B) x design heat rate x 8760 hrs/yr.
[3]Lead (Pb) emissions are based on emission factors from AP-42, Section 1.3 (dated 9/98), Table 1.3-11
[4]Highest single HAP is formaldehyde, when burning natural gas and nickel when burning No. 6 fuel oil.

Potential to emit for the boilers are based on the information identified in the above table and the maximum hourly fuel consumption rate, AP-42 emission factors (for natural gas Section 1.4, dated 3/98, Tables 1.4-1 and 1.4-2 and for No. 6 fuel oil Section 1.3, dated 9/98, Tables 1.3-1 and 1.3-3) and 8760 hrs/yr of operation. Actual emissions are based on APEN submitted on April 30, 2008 (2007 data).

In the above table for potential to emit, the breakdown of HAP emissions by fuel burned and individual HAPs is provided on page 9 of this document. HAP emissions are based on the maximum hourly fuel consumption rate, 8760 hrs/yr of operation and AP-42 emission factors (for natural gas Section 1.4, dated 3/98, Tables 1.4-3 and 1.4-4 and for No. 6 fuel oil Section 1.3, dated 9/98, Tables 1.3-6 and 1.3-11). Hexane emissions, when burning natural gas, are based on emission factors from a May 2000 EPRI report, the maximum hourly fuel consumption rate and 8760 hrs/yr of operation.

MACT Requirements

Case-by-Case MACT - 112(j) (40 CFR Part 63 Subpart B §§ 63.50 thru 63.56)

Under the federal Clean Air Act (the Act), EPA is charged with promulgating maximum achievable control technology (MACT) standards for major sources of hazardous air pollutants (HAPs) in various source categories by certain dates. Section 112(j) of the Act requires that permitting authorities develop a case-by-case MACT for any major sources of HAPs in source categories for which EPA failed to promulgate a MACT standard by May 15, 2002. These provisions are commonly referred to as the “MACT hammer”.

Owners or operators that could reasonably determine that they are a major source of HAPs which includes one or more stationary sources included in the source category or subcategory for which the EPA failed to promulgate a MACT standard by the section 112(j) deadline were required to submit a Part 1 application to revise the operating permit by May 15, 2002. The source submitted a notification indicating that the Zuni Station was a **NOT** a major source for HAPS.

In the technical review document prepared for the first renewal permit (issued April 1, 2004), the Division considered that Zuni Station was a major source for HAPS. This was based on AP-42 emissions for natural gas burning, which resulted in hexane emissions exceeding 10 tons/yr. However, at that time the facility did not trigger the case-by-case MACT requirements because it did not have any equipment that fell under

a source category for which EPA had not promulgated a MACT standard by the deadline.

Since issuance of the first renewal permit for this facility, the source has proposed to use hexane emission factors from a May 2000 EPRI report. The Division had agreed in previous situations that the EPRI emission factors are appropriate. Using the EPRI emission factors for hexane, the facility is not a major source for HAPs.

Although the facility is not a major source for HAPS, the EPA has been promulgating rules for area sources (sources that are not major). Those requirements that could potentially apply to this facility are discussed below:

Paint Stripping and Miscellaneous Surface Coating at Area Sources (40 CFR Part 63 Subpart HHHHHH)

The final rules for paint stripping and miscellaneous surface coating were published in the Federal Register on January 9, 2008 and apply to area sources that perform paint stripping operations using methylene chloride, spray application of coatings to motor vehicles and mobile equipment and spray application of coatings that contain the target HAPS (chromium, lead, manganese, nickel or cadmium). As indicated in 40 CFR Part 63 § 63.11170(a)(2) and (3), spray applications (to motor vehicles and using coatings that contain the target HAPS) that meet the definition of facility maintenance are not subject to the requirements in this rule. The Division considers that any spray coatings of motor vehicles and mobile equipment and spray application of coatings that contain the target HAP at this facility would meet the definition of facility maintenance. The source indicated that none of the paint stripping chemicals used at the facility contain methylene chloride; therefore, the provisions in 40 CFR Part 63 Subpart HHHHHH do not apply.

Reciprocating Internal Combustion Engines (40 CFR Part 63 Subpart ZZZZ)

The reciprocating internal combustion engine (RICE) MACT was signed as final on February 26, 2004 and was published in the Federal Register on June 15, 2004. Under this rulemaking only RICE that were > 500 hp and located at major sources of HAPS were subject to the requirements.

However, revisions were made to the RICE MACT to address engines $\leq$ 500 hp at major sources and all size engines at area (minor) sources. These revisions were published in the Federal Register on January 18, 2008. Under these revisions, existing compression ignition (CI) engines, 2-stroke lean burn (2SLB) and 4-stroke lean burn (4SLB) engines were not subject to any requirements in either Subparts A or ZZZZ (40 CFR Part 63 Subpart ZZZZ § 63.6590(b)(3)). For purposes of the MACT, engines located at area sources are considered existing if they commenced construction or reconstruction before June 12, 2006. The three engines included in the insignificant activity list are considered existing and are therefore not subject to the MACT. Since the source has not indicated that any additional engines have been installed at the facility, the Division considers that there are no new engines and therefore, no engines

subject to the RICE MACT. It should be noted that the source indicated in their comments on the draft permit (received April 22, 2009) that two of the existing engines have been removed from the facility.

III. Discussion of Modifications Made

Source Requested Modifications

The source's requested modifications identified in the renewal application were addressed as follows:

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The Responsible Official has been changed as indicated in the renewal application.

Section I, Condition 6.1

The source indicated that the Safety-Kleen cold cleaner solvent vat has been removed and replaced with another cold cleaner solvent vat that uses a citrus-based solvent; therefore, the source has requested that the references to Safety-Kleen be removed. The change has been made as requested.

Section II, Condition 4

As discussed above the Safety-Kleen cold cleaner solvent vat has been removed and replaced with another cold cleaner solvent vat; therefore, the source has requested that references to Safety-Kleen be removed. Then changes have been made as requested.

Appendix A – Insignificant Activity list

In their comments on the draft permit (received on April 22, 2009), the source requested that the following changes be made to the insignificant activity:

- Under "storage tanks with annual throughput less than 400,000 gal/yr and meeting content specifications (Reg 3, Part C.II.E.3.fff)" the following changes were made:
    - The No. 2 diesel oil tank is 1000 gal, rather than 500 gal.
    - The three No. 6 fuel oil storage tanks (4,000,000 gal, each), have been taken out of service and permanently closed.
    - The 300,000 gal No. 6 fuel oil storage tank is actually a 220,000 gal tank.
- Under "stationary internal combustion engines – limited hours or size (Reg 3, Part C.II.E.3.xxx)", the source indicated that both engines under this category have been removed from the facility.

Other Modifications

In addition to the source requested modifications, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments to the Zuni Station Renewal Operating Permit. These changes are as follows:

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- Monitoring and compliance periods and report and certification due dates are shown as examples. The appropriate monitoring and compliance periods and report and certification due dates will be filled in after permit issuance and will be based on permit issuance date. Note that the source may request to keep the same monitoring and compliance periods and report and certification due dates as were provided in the original permit. However, it should be noted that with this option, depending on the permit issuance date, the first monitoring period and compliance period may be short (i.e. less than 6 months and less than 1 year).

General

- The Reg 3 citations were revised throughout the permit, as necessary, based on the recent revisions made to Reg 3.

Section I – General Activities and Summary

- Revised the description under Condition 1.1 to address the attainment status of the area in which the facility is located.

- Revised the language in Condition 1.4 to include Section V, Condition 3.d and to note that only part of Condition 3.g is state-only enforceable (last paragraph). Note that Section IV, Condition 3.d (affirmative defense provisions for excess emissions during malfunctions) is state-only until approved by EPA in the SIP.

- Made minor revisions to the language in Condition 3 (prevention of significant deterioration) to be more consistent with other permits. In addition, revised this condition to address the attainment status of the area in which the facility is located.

- Added a column to the Table in Condition 6.1 for the startup date of the equipment.

Sections II.1 – Boilers burning only natural gas

- Based on EPA's response to a petition on another Title V operating permit, minor language changes were made to various permit conditions (both in the table and the

text) to clarify that only natural gas is used as fuel for permit conditions that rely on fuel restriction for the compliance demonstration.

- Removed the last sentence in Condition 1.6 since annual compliance certifications are no longer required, the sentence is no longer necessary.

Sections II.2 – Boilers burning only No. 6 fuel oil

- Based on EPA's response to a petition on another Title V operating permit, minor language changes were made to various permit conditions (both in the table and the text) to clarify that only natural gas is used as fuel for permit conditions that rely on fuel restriction for the compliance demonstration.

- Changed the reference in Condition 2.7 from "Section IV, Condition 21.b and c" to "Section V, Conditions 22.b and c".

- Removed the last sentence in Condition 2.9 since annual compliance certifications are no longer required, the sentence is no longer necessary.

Section II.4 – Cold Cleaner Solvent Vats

- Added the following note under the table "Note that this emission unit is exempt from the APEN reporting requirements in Regulation No.3, Part A and the construction permit requirements in Regulation No. 3, Part B."

Section III – Acid Rain Requirements

- Revised the Designated Representative.

- Revised the table in Section 2 to include calendar years corresponding to the relevant permit term for the renewal.

- Minor changes were made to the standard requirements (Section 4), based on changes made to 40 CFR Part 72 § 72.9.

- Removed the requirement in Section 4 to submit a copy of any revised certificate of representation to the Division. Submitting a copy of the certificate of representation to the permitting authority is not required under the regulations.

- Removed the requirement to submit the annual reports and compliance certifications in Section 4. As a result of revisions to the Acid Rain Program made with the Clean Air Interstate Rule (final published in the federal register on May 12, 2005), annual compliance certifications are no longer required, beginning in 2006. Note that although the CAIR rule was vacated (July 2008), this revision was unrelated to the CAIR rule and it is expected that these changes will not be affected by the CAIR vacatur. Note that in December 2008, the vacatur of the CAIR rule was over-turned.

Section IV – Permit Shield

- The citation for the permit shield has been revised to reflect revisions and restructuring of Reg 3 and to remove Reg 3, Part C, Section V.C.1.b and C.R.S. § 25-7-111(2)(I) since they don't address the permit shield.

- In Section 3 (streamlined conditions), removed "3.1", since this is the only text under this section, it does not require numbering. In addition, corrected the reference to "Section IV, Conditions 21.b and c" to "Section V, Conditions 22.b and c".

Section V – General Conditions

- The upset requirements in the Common Provisions Regulation (general condition 3.d) were revised December 15, 2006 (effective March 7, 2007) and the revisions were included in the permit. Note that these provisions are state-only enforceable until approved by EPA into Colorado's state implementation plan (SIP).

- Removed the statement in Condition 3.g (affirmative defense provisions) addressing EPA approval and state-only applicability. The EPA has approved the affirmative defense provisions, with one exception and the exception, which is state-only enforceable is identified in Section I, Condition 1.4.

- Replaced the reference to "upset" in Condition 5 (emergency provisions) and 21 (prompt deviation reporting) with "malfunction".

- General Condition No. 21 (prompt deviation reporting) was revised to include the definition of prompt in 40 CFR Part 71.

- Replaced the phrase "enhanced monitoring" with "compliance assurance monitoring" in General Condition No. 22.d.

Appendices

- In the insignificant activity list in Appendix A, the following changes were made:

    - The incorrect citation is listed for storage tanks with annual throughput less than 400,000 gal/yr, this was corrected.

    - Corrected the insignificant emission categories for the internal combustion engines. There are separate categories for emergency generators and stationary internal combustion engines.

- Appendix B and C were replaced with latest version.

- Changed the mailing address for EPA in Appendix D. Removed the Acid Rain addresses in Appendix D, since annual certification is no longer required and submittal of quarterly reports/certifications is done electronically.

Public Service Company, Zuni Station
Hazardous Air Pollutant Emissions

Natural Gas

Emission Unit	formaldehyde	acetaldehyde	toluene	benzene	acrolein	cadmium	chloroform	hexane	dichlorobenzene	nickel	chromium	Total
Boiler No. 1A	1.45E-01		6.57E-03	4.06E-03		2.13E-03		8.31E-04	2.32E-03	4.06E-03	2.71E-03	1.68E-01
Boiler No. 1B	6.44E-02		2.92E-03	1.80E-03		9.45E-04		3.69E-04	1.03E-03	1.80E-03	1.20E-03	7.45E-02
Boiler No. 2	3.46E-01		1.57E-02	9.69E-03		5.08E-03		1.98E-03	5.54E-03	9.69E-03	6.46E-03	4.00E-01
Total	5.56E-01	0.00E+01	2.52E-02	1.56E-02	0.00E+01	8.15E-03	0.00E+01	3.19E-03	8.89E-03	1.56E-02	1.04E-02	6.42E-01

No. 6 Fuel Oil

Emission Unit	formaldehyde	naphthalene	toluene	benzene	TCA	cadmium	lead	hexane	dichlorobenzene	nickel	chromium	Total
Boiler No. 1A	4.34E-01	1.48E-02	8.15E-02	2.81E-03	3.10E-03		1.98E-02			1.11E-00		1.67
Boiler No. 1B	1.93E-01	6.60E-03	3.62E-02	1.25E-03	1.38E-03		8.82E-03			4.93E-01		0.74
Boiler No. 2	1.04E-00	3.55E-02	1.95E-01	6.72E-03	7.41E-03		4.74E-02			2.65E-00		3.98
Total	1.66E-00	5.69E-02	3.12E-01	1.08E-02	1.19E-02		7.61E-02	0.00E+01	0.00E+01	4.26E-00	0.00E+01	6.39E-00